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program read_rcaf1011
parameter (IM=44,JM=243,KM=10,MAXCHEM=6,NOSS=2,NOPOC=3,NACTCH=1)
parameter (NOPHYTC=2,NODOC=2)

parameter (NGDUMP=(NACTCH*3)+NOSS+NOPOC+NOPHYTC+NODOC+1)
parameter (NUMSYS=16)
parameter (ICNTRAN=1948)

integer nx, ny, nz, nosys, ngdmp, fsm(IM,JM)
integer*2 sysgdp(NUMSYS)
integer rcaf10, rcaf11, rcaout
character gdnames(NUMSYS)*8
real PCHEM_AC1(IM,JM,KM),PCHEM_DET1(IM,JM,KM),
+ PCHEM_AC_GDA1(IM,JM,KM),PCHEM_DET_GDA1(IM,JM,KM),
+ PCHEM_AC2(IM,JM,KM),PCHEM_DET2(IM,JM,KM),
+ PCHEM_AC_GDA2(IM,JM,KM),PCHEM_DET_GDA2(IM,JM,KM),
+ PCHEM_AC3(IM,JM,KM),PCHEM_DET3(IM,JM,KM),
+ PCHEM_AC_GDA3(IM,JM,KM),PCHEM_DET_GDA3(IM,JM,KM),
+ PCHEM_AC4(IM,JM,KM),PCHEM_DET4(IM,JM,KM),
+ PCHEM_AC_GDA4(IM,JM,KM),PCHEM_DET_GDA4(IM,JM,KM),
+ PCHEM_AC5(IM,JM,KM),PCHEM_DET5(IM,JM,KM),
+ PCHEM_AC_GDA5(IM,JM,KM),PCHEM_DET_GDA5(IM,JM,KM),
+ PCHEM_AC6(IM,JM,KM),PCHEM_DET6(IM,JM,KM),
+ PCHEM_AC_GDA6(IM,JM,KM),PCHEM_DET_GDA6(IM,JM,KM)

INTEGER indx(ICNTRAN), jndx(ICNTRAN)
INTEGER IWTRCNT, IZ

C READ IN MODEL GRID
C
OPEN(30,FILE='ww_cells.txt',FORM='FORMATTED',STATUS='OLD')
READ(30,'(I12)') IWTRCNT
print *, 'iwtrcnt', iwtrcnt
DO 25 I=1,IWTRCNT
  READ(30,'(2I12)') indx(I),jndx(I)
25 CONTINUE
CLOSE(30)

OPEN(1001,FILE='REAF1011_PCHEM_ALG.TXT',FORM='FORMATTED')
OPEN(1002,FILE='REAF1011_PCHEM_DET.TXT',FORM='FORMATTED')

rcaf10=1
open(rcaf10,file='RCAF10',form='unformatted')
rcaf11=2
open(rcaf11,file='RCAF11_part',form='unformatted')

read(rcaf10)nx, ny, nz, nosys, ngdmp
write(*,*)nx, ny, nz, nosys, ngdmp
if(IM.NE.nx) then
  write(*,*)"IM .NE. nx"
  stop
endif
if(JM.NE.ny) then
  write(*,*)"JM .NE. ny"
  stop

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        endif
        if(km.NE.nz) then
            write(*,*)"KM .NE. nz"
            stop
        endif
        if(NUMSYS.NE.nosys) then
            write(*,*)"NUMSYS .NE. nosys"
            stop
        endif

        read(rcaf10)
        read(rcaf10)
        read(rcaf10)fsm

        do while (1.EQ.1)
            read(rcaf10,end=999)time
            write(*,*) time
            read(rcaf11) PCHEM_AC_GDA1
            read(rcaf11) PCHEM_DET_GDA1
            if(NACTCH.EQ.1) GOTO 361
            read(rcaf11) PCHEM_AC_GDA2
            read(rcaf11) PCHEM_DET_GDA2
            if(NACTCH.EQ.2) GOTO 361
            read(rcaf11) PCHEM_AC_GDA3
            read(rcaf11) PCHEM_DET_GDA3
            if(NACTCH.EQ.3) GOTO 361
            read(rcaf11) PCHEM_AC_GDA4
            read(rcaf11) PCHEM_DET_GDA4
            if(NACTCH.EQ.4) GOTO 361
            read(rcaf11) PCHEM_AC_GDA5
            read(rcaf11) PCHEM_DET_GDA5
            if(NACTCH.EQ.5) GOTO 361
            read(rcaf11) PCHEM_AC_GDA6
            read(rcaf11) PCHEM_DET_GDA6

361    WRITE(1001,'("DAY=",F10.4)') TIME
        DO I=1,IWTRCNT
            WRITE(1001,'(2i6,10e15.5)') indx(I),jndx(I)
+           ,(PCHEM_AC_GDA1(indx(I),jndx(I),IZ),IZ=1,KM)
        ENDDO
        WRITE(1002,'("DAY=",F10.4)') TIME
        DO I=1,IWTRCNT
            WRITE(1002,'(2i6,10e15.5)') indx(I),jndx(I)
+           ,(PCHEM_DET_GDA1(indx(I),jndx(I),IZ),IZ=1,KM)
        ENDDO

        enddo

999  continue
        CLOSE(1001)
        CLOSE(1002)

        end

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